129

THE USE OF EMPLOYMENT TESTS BY THE LIFE INSURANCE INDUSTRY IN THE DES MOINES AREA

by

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THE USE OF EMPLOYMENT TESTS BY THE LIFE INSURANCE INDUSTRY IN THE DES MOINES AREA

A Field Report

Presented to

The Graduate Division

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In Partial Fulfillment

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by

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133

TABLE OF CONTENTS

DRAKE UNIVERSITY LIBRARY

CHAPTER PAGE

BOONE UNIVERSITY LIBRARY

LIST OF TABLES

DRAKE UNIVERSITY LIBRARY

LIST OF FIGURES

BRAKE UNIVERSITY LIBRARY

CHAPTER I

INTRODUCTION

Counselors are confronted each year with students who are about to graduate from high school to enter the labor market. The counselor may understand the student's situation, but does he know the other side, the side of the hiring companies? Does he understand the systems under which they operate, the values and philosophies within the structure of the organization? The counselor must understand both positions to do his job effectively.

I. THE PROBLEM

Statement of the problem. It was the purpose of this project to determine how employment tests are being used in the local life insurance industry. This problem includes such things as (1) the weight that is placed on the [illegible] selection, [illegible] the companies not allowing the tests [illegible] should be made of them. A secondary purpose of this project was to investigate the trends of the use of employment tests by the life insurance industry.

Importance of the study. Tests today are being used extensively in the hiring of people. Companies are faced

CHAPTER I

INTRODUCTION

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I. THE PROBLEM

Statement of the problem. It was the purpose of this project to determine how employment tests are being used in the local life insurance industry. This problem includes such things as (1) the weight that is placed on the test results in selection, placement, and promotion of personnel; (2) what the companies are trying to find out by using tests; and (3) whether any of the companies are allowing the tests to make decisions that should be made by men. A secondary purpose of the project was to investigate criticisms of the use of employment tests by business and industry.

Importance of the study. Tests today are being used extensively in the hiring of people. Companies are faced

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with the problem of distinguishing between people and then, after distinguishing between them, of sorting them out to fill the various positions available. The counselor, who is going to help those students seeking employment, needs to know the various philosophies of the testing programs in industry in order to do his job more effectively. Testing is usually an integral part of the selection procedure. An awareness that tests are being used and the type of tests involved will perhaps put the student on an equal basis with other applicants. This awareness will also help to alleviate the anxiety a student may have.[1]

Limitations of the study. The study was limited to twenty-one life insurance companies whose home offices were located in Des Moines, Iowa. Of these, one did not participate. Another limitation was the tight labor market in the Des Moines area at the time the study was made. This affected the way the personnel people judged their testing program. Several items on the questionnaire were vague and needed interpretation. The people answering the questions were very busy and did not want to devote the time necessary to complete the questionnaire. Many of the companies did not keep adequate personnel records, and consequently were

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[1]Anne Anastasi, Psychological Testing (New York: The McMillan Company, 1962), p. 3.

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not able to answer all of the questions on the questionnaire.

II. DEFINITION OF TERMS

For the purpose of clarity to the reader, the following definitions of terms are presented:

Life insurance industry. Companies licensed to sell life insurance in the state of Iowa. They may also sell other types of insurance.

Life insurance company. Companies who are licensed as a life insurance company only.

Life and Accident and Health companies. Companies who are licensed to sell life insurance, but also sell accident and health insurance.

Multiple line companies. Companies who are licensed to sell automobile insurance, casualty insurance, and allied lines as well as life insurance.

Administrative personnel. Persons who are involved in the operational and procedural functions of the company but do not have supervisory responsibilities.

Clerical personnel. Persons who are involved in clerical work. This category would include secretaries, claim examiners, life underwriters, file clerks as well as

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the stenographic personnel.

Supervisory personnel. Persons who are responsible for supervising others. While they are classified as supervisory, they may also be involved in clerical and/or administrative work.

Home office. The city in which top management is located and where most records are kept. Usually where most of the employees are located.

III. PROCEDURE

The writer reviewed the testing literature and directed his attention toward the uses of employment tests, their positive and negative aspects, general background information, and conclusions.

With the help of Dr. Stuart Tiedeman of Drake University and Mr. Robert Worthington of Bankers Life Company, a questionnaire was constructed to be administered by the writer to each of the twenty-one companies whose home office was located in Des Moines, Iowa.[1] This list of companies was secured from the Department of Insurance, State of Iowa, at the State Office Building in Des Moines, Iowa, on January 17, 1966. In order to limit the study to a workable size, only those companies who were licensed to

[1] See Appendix A, Sample Copy.

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sell life insurance and whose home offices were located in the Des Moines area, were selected. The original plan called for each of the twenty-one companies to be visited and the questionnaire administered. This would have meant asking the questions of the people in the personnel department and waiting for their answers. After visiting several companies, it was discovered that this procedure was too time consuming for the companies, and the people in the personnel departments could not take the time to answer the questions while the writer was waiting.

It was then decided to allow them to answer the questionnaire in a manner which would enable them to utilize their time to the best advantage. A plan was developed whereby the interviewer would visit each company and explain the purpose of the study. At that time he would go over the questionnaire with the people who would be answering the questions. The investigator would then answer any questions that were brought up and further instructions were given for them to call if there were any additional questions. They were then told that the writer would come back and pick up the questionnaire or that it could be returned by mail. They were also advised that the investigator would call back if there were any questions concerning the completed questionnaire. This procedure proved satisfactory. The writer was still able to inspect the testing area and at the same time was able to develop a rapport with the persons

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answering the questions. The data were assembled, organized and made into a report.

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CHAPTER II

REVIEW OF LITERATURE

Why does the life insurance industry in Des Moines use employment tests? Or, for that matter, why does any industry use tests? Cronbach and Glaser said: "Our society continually confronts people with decisions for which they have inadequate information. It is for this reason that psychological tests exist."[1] The life insurance industry, like any other industry selecting new employees, has very little information concerning applicants. The fact that society is becoming more and more complex as well as impersonal complicates the problem of selecting personnel.

Bellows said, "Every day personnel departments are faced with the challenge of identifying the individuals with the characteristics needed for jobs in the company. With 22,022 jobs listed in the Dictionary of Occupational Titles, and a labor force of approximately 61,000,000 workers, problems of matching workers to jobs come into focus".[2] The companies want the best employees and at the same time they must be conscious of the amount of time and money spent on

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[1] Leo J. Cronbach and Goldfine C. Glaser, Psychological Tests and Personnel Decisions (Urbana: University of Illinois Press, 1959), p. 1.

[2] Roger Bellows, Psychology of Personnel in Business and Industry (New York: Prentice Hall, Inc., 1954), p. 280.

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selecting new employees. Today's generation is a mobile one and this causes a higher turnover rate which in turn focuses attention on the importance of selection. The placement of an employee on a job has far reaching effects on both the employee and the employer. Many of these effects are irreversible on the part of the employee. The people who do the hiring are employed by and paid by the company for whom they work, and consequently have an obligation to that company. Their obligation does not end with the company. They have a similar obligation to the prospective employee. These people need more than their own good judgment. They need factual information which can be gained from the use of psychological tests.

Anastasi suggested that psychological testing could be helpful in such matters as hiring, job assignment, transfer, promotion or termination. She added that for the effective utilization of tests, especially in connection with high level jobs, one must also use skillful interviewing so that test scores can be properly interpreted in the light of other background information about the individual.[1]

Super was not impressed with the value of the interview. He maintained that there was evidence which showed that subjective methods of evaluation added little or nothing to the predictive value of well-constructed and

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[1]Anastasi, loc. cit.

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validated objective tests, and he did not recommend the continued use of interviews, application blanks, rating scales and letters of recommendation by personnel people and vocational psychologists in the selection of employees.[1]

Use of tests. Tests are used in industry in the selection of employees because indiscriminate hiring of people, before determining whether or not they can do the job, is not practical. Stone and Kendall said:

> There is only one sure way of telling whether an untrained applicant will eventually prove satisfactory on a job. That way is to hire him, train him, observe him for a period long enough for him to demonstrate he can perform effectively on the job.[2]

This method is not practical since it is both costly and time consuming.

Tests have been devised in order to shorten the process of determining those workers who are satisfactory on jobs. The test was devised to extract a sample of behavior from an individual, behavior similar to that which is required on the job.

Measurement by tests is indirect. Intelligence, for example, cannot be seen and measured as one can see and

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[1] Donald E. Super and John O. Crites, Appraising Vocational Fitness by Means of Psychological Tests (New York: Harper & Company, 1962), p. 25.

[2] C. Harold Stone and William C. Kendall, Effective Personnel Selection Procedures (Englewood Cliffs: Prentice Hall, Inc., 1956), p. 233.

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measure a piece of steel. Tests are constructed in such a way that they extract a sample of the individual's behavior by having him respond to questions. These responses are then compared to the responses of other persons who have previously taken the test. The procedure is indirect, since on-the-job behavior is not observed. Rather, test behavior is observed and a reading taken that may be related to on-the-job performance.[1]

Although vocational counseling measuring devices are often identical with those used in selection, their uses generally differ considerably. In vocational counseling, the primary objective is the development of an understanding of an individual by himself and, incidentally, by the counselor, and the relating of personal data to occupational data. In the counseling situation one must depend a great deal on non-testing techniques. On the other hand, in personnel selection one may rely more heavily on testing procedures. Super supported this idea with four factors:

1. The simplicity of validation (checking test results against behavior which one is attempting to predict).
2. Uniform criteria group (men in one job).
3. Personnel man has some control over job situation (working for company--more cooperative).
4. Practicability and superiority of custom made tests (the more specific, the better prediction).[2]

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[1] Bellows, loc. cit.

[2] Super, op. cit., p. 17.

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Most of the test uses so far have been in connection with selection. Stone and Kendall spoke of the loss of valuable employees simply because the tests were not utilized in differential placement. After a review of testing literature, they claimed that there was almost a universal emphasis on the use of tests for selection and rejection of applicants for employment. They indicated that few mentioned, and most ignored, the value of tests for differential placement. Although it is not uncommon for the interviewer to explore several job possibilities with the applicant in the employment interview, when it is time to test attention is often centered on the qualifications of the applicant for a specified job. The extent of the loss of potentially valuable employees through failure to use differential placement is not known, but studies in the early 1930's and 1940's suggested that the losses may be substantial.[1]

Tests can also aid in promotion. When used in this manner, test results are effective in identifying employees with superior aptitudes who may be similar in other respects such as experience and background.

When it is necessary to transfer employees within an organization, test results can be useful. Information on their measured abilities and aptitudes can provide important

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[1]Stone, op. cit., p. 240.

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clues about those who have the greatest promise for success in a new department.

Tests are also used in supervisory and executive selection. An excerpt from Effective Personnel Selection Procedures read:

> Sears Roebuck & Company has probably had longer experience in the field of executive testing than any other large corporation in the country. One of the company's top executives recently remarked that if reductions were ever made in their personnel department, the last thing to be touched would be the executive testing program.[1]

Granted, they did not bother to ask the opinion of the prospective executive who was not selected because of the test. But, his opinion probably would not reflect the value of tests in selecting executives that the company desired. Stone and Kendall observed an additional unplanned value of testing. They said:

> Testing programs are rarely installed with the purpose of attracting only superior applicants to the employment office. Experience indicates, however, that many less able workers are discouraged from applying for work in an organization that is known to test applicants for employment.[2]

There was another use of tests suggested by Stone and Kendall, and unfortunately it has been used quite effectively. They suggested that with objective tests, one can discriminate without fear of Federal Employment Practice Commission hear-

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[1] Ibid., p. 254.

[2] Ibid., p. 256.

ings. They also indicated that even if there was a hearing, the test would back the employer's decision not to hire.[1]

Positive aspects of testing. According to Balinsky there are so many college graduates applying for work that an employer has no easy choice. The use of psychological techniques makes the process of selection simpler and more effective.[2]

As Stone and Kendall stated it, even the most comprehensive battery of tests gives only a small sample of an individual's behavior, but by providing samples of a person's behavior in situations found by research to be related to job performance, tests can effectively supplement other personnel procedures by improving the efficiency with which job performance can be predicted.[3]

Tests are not infallible, but used correctly they can improve the chances of making a correct selection significantly. Tests should not be evaluated in terms of perfection, but rather in terms of increasing the chances for success. A personnel manager was once criticized because a careful study revealed his use of tests improved selection effectiveness by only ten per cent. His reply was that he

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[1] Ibid.

[2] Benjamin Balinsky, "Testing Daze," Newsweek (June 14, 1965), 111.

[3] Stone, op. cit., p. 234.

would take ten per cent on his money any time.[1]

Bellows concurred with this view and further stated that at present the goal of testing is not perfection in prediction of success of applicants; rather, the goal is to improve present procedures for selection. Test scores cannot be said to be more than an aid, an auxiliary indicator which, used with other indicies, can be helpful in placing, utilizing, and promoting satisfaction of employees. Job satisfaction of employees may be expected to increase if workers are placed on jobs where their abilities are more fully used.[2]

The uses of tests have been aimed toward the idea of improving personnel administration practices, that is, reducing turnover, having efficient workers and a stable work force.

Negative aspects of testing. Recently there has been a certain amount of criticism about the use of employment tests. In a review of recent literature, criticisms were found but these criticisms cannot represent a blanket condemnation of all psychological testing. In a careful examination of the criticisms, one found that they were usually directed to specific areas of testing or certain types of tests.

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[1] Ibid., p. 235.

[2] Bellows, op. cit., p. 282.

In Best's, a life insurance magazine, there was an article concerning the legality and validity of personnel tests. In this article, Vincent indicated that psychologists have been acutely concerned over the ethical aspects of personnel testing. The public has accused the people associated with testing with invasion of privacy through the use of psychological tests. Vincent reflected that most of the recent attacks on psychological testing were actually attacks on personality tests. He concluded that although personality tests were improving, they could not be recommended as good or practical tools at this time.[1]

In their book, Epitaph for Vocational Guidance, Barry and Wolf expressed the idea that practice does play a great part in test results. They felt that the student who has taken innumerable tests tended to be able to perform better on them than the students without that advantage. They contended that questions were similar, vocabulary items were duplicated, and practice in thinking in analogies helped. They also felt that tests discriminated in an undesigned fashion by rewarding experienced test takers with higher scores.[2]

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[1] Norman L. Vincent, "The Legality and Validity of Personnel Tests," Best's Insurance News, Life Edition, (February, 1966), 20.

[2] Ruth Barry and Beverly Wolf, An Epitaph for Vocational Guidance, (New York: Teachers College Columbia University, 1962), p. 208.

Test scores mean a great deal to a large number of people. Huff recently wrote a book called Score: The Strategy of Taking Tests. In justifying the writing of this book he said, "of the things we want, a frighteningly large and expanding number are dependent upon the showing we make in one kind of formal test or another."[1] By this, Huff insinuated that one must do well on tests. In his book he demonstrated how to prepare for tests, gave a series of practice questions, and explained how to make educated guesses, with the idea that all of these aids would help the test taker obtain a better score.

Another criticism observed was that tests make the decisions rather than being an aid in the decision-making process. Balinsky said, "the real reason some employers use psychological tests is that they lack the courage to look a man in the eye and say you won't fit, so they get a psychologist to sign the order".[2]

Most tests are colored with culture. Barry contended that all tests were adulterated by factors other than those they were intended to measure. Reading hinders the retarded reader, and reading is probably the most important single adulterant of tests. Arithmetic achievement has a similar effect. She further stated that quite often the bright

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[1] Darrell Huff, Score: The Strategy of Taking Tests (New York: Appleton-Century-Crafts, Inc., 1962), p. 21.

[2] Balinsky, op. cit.

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child was penalized on intelligence tests for having too advanced knowledge and too great subtlety. Therefore, certain persons would be handicapped before they took a test.[1] This raised the question of legality, and although the courts have ruled that tests used in hiring are legal, the question has not been settled in that it had not reached the United States Supreme Court at the time of this writing.[2]

Barry had a great deal of criticism for tests. She maintained that the greatest abuse of measurement was purposeless testing. A test should be given only for good and sufficient reason. Those reasons, in her opinion, were:

1. Because it describes, within reasonable limits of accuracy, some facets of the individual.
2. Because it provides information obtainable in no other way.
3. Because it provides information more efficiently than other methods.[3]

Persons who might do well, may never have a chance to prove it because of their fear of tests. High anxiety hinders test performance. It was Anastasia's opinion that both school achievement and intelligence test scores yielded significant negative correlation with test anxiety. Such correlation supported the hypothesis that children who became over anxious in a test situation were thereby handi-

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[1] Barry, op. cit., p. 32.

[2] Vincent, op. cit., p. 21.

[3] Barry, op. cit., p. 50.

capped in their performance. She felt, however, that it was likely that the relation between anxiety and performance was curvilinear; a slight degree of anxiety being beneficial, a high degree detrimental. She felt, however, that more research was needed before a definite statement could be made.[1]

General information. The motive behind the use of tests is efficiency. Tests can increase the efficiency of the company's operations. Workable, valid tests contribute toward a better selection of employees. No prediction can be made on the basis of test scores that a single individual worker will succeed. A group of workers selected by valid tests, however, will produce more as a group than a group not so selected.[2]

The relation between training cost and different cut off scores is clearly evident. Cost per satisfactory employee decreases steadily as the minimum passing score on the test is raised.[3] However, this will depend on the availability of the labor market. As Bellows expressed it,

> The value of tests for selection in a tight labor market is often questioned because of the number of job openings out number the applicants for employment. Selover and Vogel demonstrated that in such a situation tests can be useful in assigning applicants to the jobs

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[1] Balinsky, loc. cit.

[2] Bellows, op. cit., p. 290.

[3] Stone, op. cit., p. 251.

which best match their respective aptitudes.[1]

Bellows expressed results showing the relation between test validity, percentage of applicants to be selected, and savings resulting from testing applicants. This relation depended on two factors: (1) the effectiveness of the selection instrument in predicting efficiency on the job, and (2) the percentage of applicants who must be chosen. The need for including costs of testing is emphasized, since it increases markedly as the percentage of applicants rejected increases. In a tight labor market, when fewer applicants are rejected, use of tests might be employed for placement as well as selection.[2]

In selecting personnel for jobs, the investigator must be thoroughly familiar with the jobs in question. After the research worker has become familiar with a job and made an analysis of the qualities required by it, his next task is to select or devise tests for these qualities.

Once a test has been selected, then it must be validated. This means the test must be tested to determine if it is doing the job for which it was selected.

That tests are more effective in predicting failures than in predicting successes, is due to two factors. Many jobs require certain minimum amounts of one or more specific

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[1] Bellows, op. cit., p. 292.

[2] Ibid., p. 295.

aptitudes for successful performance. Lack of such aptitudes can be predicted with a fairly high degree of success with psychological tests. On the other hand, although persons possessing superior aptitudes for a given job can be identified through the use of tests, success on the job is controlled by a wide variety of factors. For example, such factors as motivation, level of aspiration, domestic difficulties, financial worries, personality conflicts with superiors or associates, as well as organic illness of the employee are all important in his adjustment to the job, but are not measured by tests or aptitude. Some of these non-aptitude factors may be identified in the interview; others may not. And many may arise after the applicant has been hired and placed on the job. Recognition that many factors determine success on the job will help one to understand that tests are a negative selection device and that success on a test does not necessarily insure success on the job.[1]

Whenever a test is being tried for selection of personnel for some job specialty, it is most desirable that it be validated. Experimental evidence is called for to show that the test is, in fact, effective in discriminating between those who are and those who are not successful in a particular job.[2]

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[1] Stone, op. cit., p. 234.

[2] Robert L. Thorndike, Personnel Selection (New York: John Wiley and Sons, Inc., 1949), p. 511.

Effective administrative organization has two major goals: (1) the achievement of uniformity of procedure in test administration, scoring and weighting, so that the final evaluation of a given individual will be the same no matter where, when or by whom he was tested, and (2) efficiency of operation.[1]

The predictive value of a test is usually expressed by the industrial psychologist as a validity coefficient. This is a statistical measure indicating correlation of a test with an objective measure of job performance. Although it is generally contended that a single test used to predict job success should have a validity coefficient of at least 0.35 to 0.40, no exact value can be specified for all situations. The reason a flat rule cannot be given is that the effectiveness of any personnel test related to job performance can be increased by reducing the proportion of applicants hired for the job. This, of course, assumes a condition of having more applicants than jobs. The ratio of number of applicants hired to number tested is called the selection ratio.

With a small selection ratio, only a small proportion of those tested will be hired, and all who are hired can be taken from those with the highest scores on the test. Under such conditions the value of the test will be greatest. On

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[1] Ibid., p. 258.

the other hand, when the selection ratio is high, the majority of applicants must be hired, and the predictive efficiency of the test will be diminished. This is true since many who score low on the test will have to be placed on the job.[1]

The relation of the selection ratio, not only to the validity of the test and to the proportion of satisfactory employees, but also to the labor supply, is apparent. Implications for the recruiting program are of course very direct. Effective selection depends on attracting a sufficient number of applicants to permit application of a satisfactory selection ratio. It should be emphasized that the principle of the selection ratio is equally applicable to other employment procedures as well as to tests. Unfortunately, however, other techniques such as the interview and rating of application blanks are rarely subjected by manpower managers to the exacting evaluation demanded of tests. Hence, although the ratio principle is applicable, it is almost never applied to other selection methods.[2]

Conclusions found in testing literature. When organizing a testing program the personnel men charged with the responsibility of selecting tests must use several

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[1] Stone, op. cit., p. 238.

[2] Ibid., p. 240.

practical considerations in addition to the technical ones concerned with the statistical soundness (reliability, validity, stability) of the test. Cronbach has summarized the following practical considerations in choosing tests:

1. Cost must not be overweighted in comparing tests; there is usually little relationship between the cost of the materials and the quality of the test.
2. Five short tests may be required instead of a little better, though longer one.
3. Ease of administration and scoring. Tests requiring the services of expert testers and scorers may not be feasible. For group testing there are numerous tests available with rapid scoring features.
4. Comparable forms for some kinds of research programs, alternate or equivalent forms of the test are essential to the evaluation of a particular method or technique being experimented with.
5. Face validity and interest. The cooperation of the subject is more likely to be obtained with tests which seem to him to make sense for the purpose for which he is being tested.
6. Acceptability. When several persons may be using the test results, it is important that the particular kind of test, or the form of the test, be one which is acceptable to them or else they may not use the test scores confidently.
7. Usefulness of results. Performance on the test must be expressed in a form which is useable by the kind of persons who will use the results, not in some form requiring expert interpretation.[1]

Generally, personnel tests are devised so that the applicant is to do his best. In order to do his best, it is necessary to have the best environment possible. This would mean a good area for administration of group tests.

Thorndike has listed the following for the ideal room for the administration of group tests:

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[1]Cronbach, op. cit., p. 296.

1. It is quiet and free from the disturbances of other activities.
2. It is well lighted and ventilated.
3. It provides each subject with a comfortable seat and a good writing space, preferably a desk or table. A chair with a writing arm is reasonably satisfactory.
4. It has appropriate size and shape and has sufficiently good accoustics, so that each person being tested can both see and hear the test administrator without difficulty.
5. It provides space so that test proctors can reach any subject being tested, to answer a question or inspect his work.
6. It provides enough separation between testees to make cheating difficult or impossible.
7. Where testing is of large groups and considerable periods, the testing room has adequate nearby toilet facilities.[1]

Thorndike further stated that the administrator needs to be thoroughly familiar with the instructions which he gives. He also needs what was described as "presence", or poise. The administrator should be conscientious, and finally, the administrator must be capable of using good judgement when an undefined situation occurs. These qualities are basic to the proper administration of tests. In addition, the test instructions, both those which are given to the subjects and those which guide the test administrators, are among the most important aspects of test procedure.[2]

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[1] Thorndike, op. cit., p. 262.

[2] Ibid.

CHAPTER III

PRESENTATION OF DATA

There were twenty-one companies selling life insurance who maintained their home offices in the Des Moines area. Of these twenty-one companies, twenty agreed to participate in this study.

A total of seventeen companies made use of some type of testing procedure in hiring new employees.

The complete list of the companies selling life insurance in the Des Moines area was obtained from the office of the Department of Insurance. Even though all of the participating companies had a license to sell life insurance in the state of Iowa, this did not indicate that they were basically life insurance companies. There were eight companies which classified themselves as life insurance companies, seven as accident and health as well as life, and five as multiple line companies.

The twenty companies employed a total of 4,050 people on their home office payrolls. This total was broken down into 1,360 male employees and 2,690 female employees. The number of employees was further divided into the types of positions held. These positions, which were earlier defined, were administrative, clerical, and supervisory. Sales as a category was included in the questionnaire, but after dis-

cussions with several personnel people, the category was eliminated. This was done because most of the sales personnel were outside the home office, and those in the office could be included under the administrative category. These data appear in Table I.

TABLE I

THE NUMBER OF MALE AND FEMALE EMPLOYEES, ACCORDING TO TYPE OF POSITION HELD, ON THE HOME OFFICE PAYROLLS OF THE TWENTY PARTICIPATING INSURANCE COMPANIES, DES MOINES, IOWA

Position	Male	Female	Total
Administrative Personnel	411	37	448
Clerical Personnel	638	2,565	3,203
Supervisory Personnel	311	88	399
Total	1,360	2,690	4,050

Table II shows the number of employees according to the type of company. This was done to determine if there were any different employment trends among the various types of insurance companies, such as a certain type of company employing a disproportionate number of men. The trend was about two to one, women to men, in each type of company.

TABLE II

THE NUMBER OF MALE AND FEMALE EMPLOYEES IN THE HOME OFFICES OF THE PARTICIPATING COMPANIES ACCORDING TO THE TYPE OF COMPANY FOR WHICH THEY WORK, DES MOINES, IOWA

	Male	Female	Total
Life	306	590	896
Life, A&H	532	990	1,522
Multiple Line	522	1,110	1,632
Total	1,360	2,690	4,050

The subject of the turnover rate of the various life insurance companies was listed on the questionnaire, and was broken down according to clerical personnel, administrative personnel, male personnel and female personnel. In this category, all of the participating companies did not keep records in the same way. They all reported that the administrative personnel turnover rate was negligible. Of the participating companies, twelve responded with only one turnover rate which represented the turnover rate for the company. The remaining eight participating companies reported both male and female turnover rates. The mean and median averages of the turnover rate were calculated and after a careful analysis it was decided that the median rate would be used. These data are shown below:

Classification	Median turnover rate
Male	10%
Female	35%
Total	30%

It was noted that those companies whose turnover rate was above the median employed 3,567 people, while those companies whose turnover rate was below the median employed only 483 persons. This median of 30 per cent for the turnover rate would suggest that there would be 1,215 job openings in the life insurance industry in Des Moines in 1967. This figure includes only those companies who participated and does not allow for company expansion or new companies. It must be pointed out that many companies are using more automation equipment, and unless these companies are expanding rapidly they would hire fewer employees than had terminated employment the previous year. This was reported to the writer by a director of personnel of one of the participating companies.

The side headings in the remainder of the chapter represent the questions as they were stated on the questionnaire administered to the life insurance companies.

History of testing and test procedures used by the various companies. The earliest reported date for the use of employment tests by any of the participating companies was 1930. Since that time more and more companies have

initiated some type of testing program to aid them in their selection procedure. The results indicate that in addition to more companies testing each year, these companies are increasing the number of types of tests that they use. The increase in the number of types of tests has been due partly to the sophistication of the modern equipment and the specificity of the jobs. Automation equipment has created a need for tests demonstrating the applicant's skill in operating this type of equipment.

All of the companies that employed twelve or more people utilized some type of employment test. There were three companies that employed fewer than twelve people, that did not utilize any type of employment test. This meant that seventeen of the life insurance companies investigated utilized one or more tests. The percentages of life insurance companies using tests and the extent to which these tests were used are shown in Figure 1.

The results also indicated that all companies using employment tests utilized them in the selection of female personnel, but only ten of the companies utilized employment tests in the selection of male employees.

Specific purposes of using tests. Selection and placement was the response of sixteen of the companies to this question. Many of the companies did not indicate this response in the specific terms mentioned but rather implied

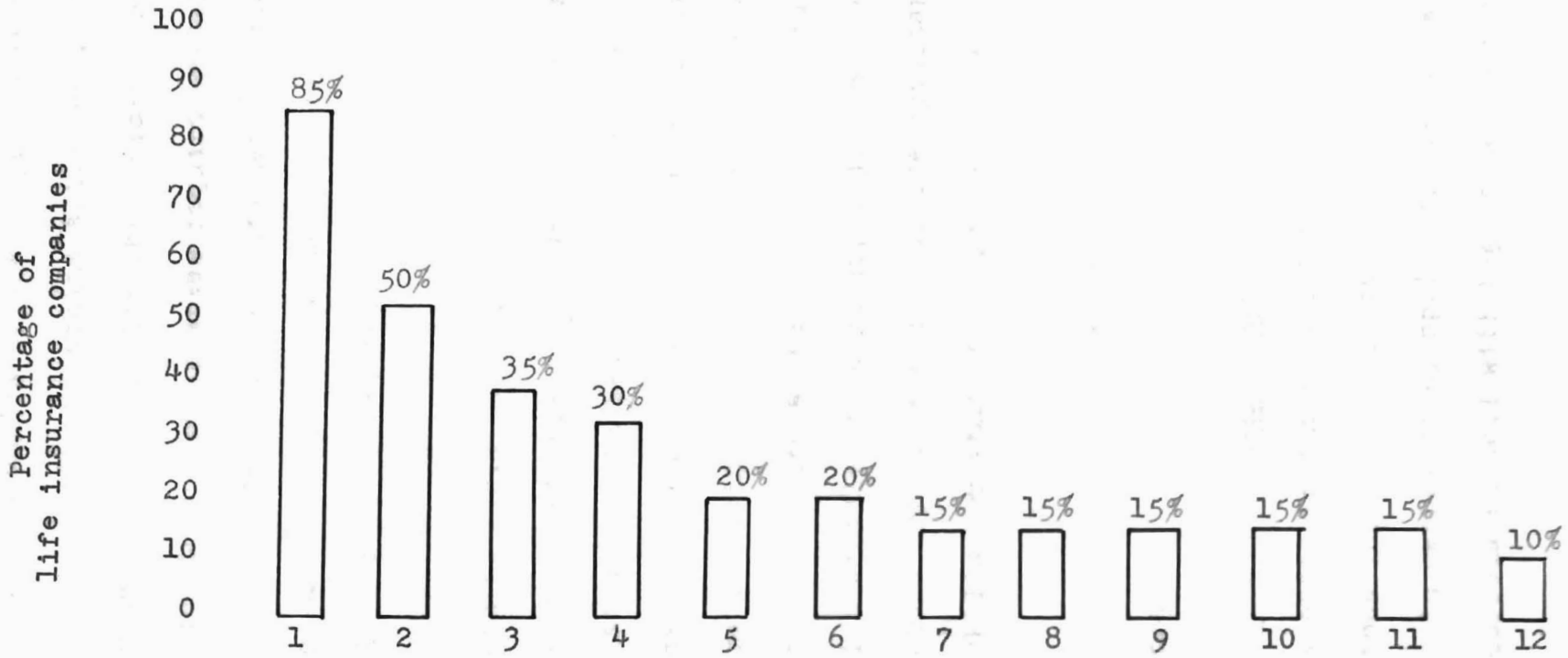

Figure 1. Percentage of Life Insurance Companies in Des Moines, Iowa, and the number of employment tests used in the spring of 1966.

it by their answers. Examples of the responses were, "to determine aptitude", or "to determine abilities". Later, these responses were discussed with the company representatives who revealed that certain areas require certain skills, and they could determine the chances for success in the different areas by the obtained scores. The personnel department employees indicated that the test score was important in selection, but it was more valuable in the placement procedure. This was not true of smaller companies (one hundred or fewer employees). Several of the larger companies indicated that in testing and interviewing, they might be considering the applicant for several positions and that the information gained from the selection procedure would help them in reaching a decision about placement. The smaller companies usually had a specific job that needed to be filled and would try to determine if the applicant had the necessary skills for that job. However, it was brought to the attention of the investigator that the information gained in the selection procedure could be utilized at some later date to transfer or to promote an individual.

Results of the testing program. All of the companies using tests responded in the affirmative to this question. Their explanations included, "points out applicants who have limited ability in mathematics, spelling, grammar and concentration", "correlates well with high school and college

grades", "we felt it is helpful in the selection of new employees". This question was designed to have the company commit itself regarding the validity of the testing program, and then to follow with a question designed to determine how the company established the validity of its testing program.

Companies evaluation of their testing program. This question was designed to disclose how the company went about determining whether or not the testing program was doing its job. Although all of the companies reporting on their testing programs indicated that the programs were doing their job, only two of these companies had formal evaluation programs to check the validity of their tests. Another three had informal evaluation programs and the other fifteen had no evaluation program. They did, however, indicate that they periodically checked the progress of the employee. Most of the companies (fifteen) had no evidence to prove that the testing program was doing its job, even though all indicated that it was.

Contemplated revisions of the testing programs. None of the companies was revising its testing program and none contemplated revision. One company did mention that the Life Office Management Association (LOMA) was in the process of revising its tests. This would affect four companies since four companies were using the LOMA tests at the time

of the study. It was understandable why none of the companies was planning a revision of their testing program, since they all felt that their program was doing its job.

Number of persons tested each year and educational level attained. Only six of the companies kept records of the number of persons tested each year. Another seven estimated this figure and the remaining seven made no estimate. The selection ratio of a company is determined by dividing the number of persons hired each year by the number of persons tested each year. This is a very important figure in understanding the personnel operation, and yet only six companies had this figure available. These data appear in Table III.

TABLE III

THE NUMBER OF PERSONS TESTED EACH YEAR BY THE PARTICIPATING COMPANIES, DES MOINES, IOWA, AND THEIR ATTAINED EDUCATIONAL LEVEL

Educational Level	Male	Female	Total
Less than high school	13	28	41
High school	522	3,107	3,629
College*	213	181	394
Total	748	3,316	4,064

*Includes business college

The selection ratio at the time of the study was very high because of the shortage of workers. Stenographic skills were very much in demand, and consequently the companies could not be as selective as they might have been.

The ratio of females to males tested was over four to one. This compared to a two to one ratio of the total number of females to males employed. Only 19 per cent of the companies indicated that they were even testing anyone with less than a high school education. This would suggest that most of those persons with less than a high school education were eliminated from consideration prior to their testing procedure. The largest educational level group being tested was the high school group. This category covered 89 per cent of the total being tested. Next came the college group with 9 per cent of the total, and last was the less than high school which was 1 per cent of the total.

Percent of applicants eliminated by testing. This question proved difficult for most of the companies to answer. Although there was a response of 73 per cent to the question regarding females, only 40 per cent responded to the same question regarding males. From those companies who responded, the mean percentage for the females eliminated by testing was 23 per cent. It must be remembered that this question was answered to the best judgement of the personnel people and was at best an estimate. The actual figures were

not too meaningful, other than to demonstrate that very few of the applicants were eliminated by testing alone.

Per cent eliminated by means other than testing. This question was designed to combine with the previous question to determine what the selection ratio was. However, since so few of the companies kept an accurate record of the number of applicants, it was felt that this question did not achieve the desired goal. The figures as reported and averaged were as follows: 28 per cent of the male applicants were eliminated by means other than testing and 32 per cent of the female applicants were eliminated by means other than testing. These figures combined with the previous question would indicate that 37 per cent of the male applicants were eliminated while 55 per cent of the female applicants were eliminated. These figures would suggest that the selection ratio would be higher for males than for females.

Weight given to test results in the final decision to hire or not to hire? This question was designed to be combined with the next section to determine the amount of weight the different selection items carry. A scale of one hundred points was established and all of the items combined were to total one hundred points. The mean response to the above question was thirty points. The personnel people indicated that while a test score alone cannot eliminate a person from consideration a certain minimum standard must be

met. They said that in the case of a very low score, the high school grades would usually verify the test score and therefore the test score would not be the sole consideration.

Other factors used in personnel selection. This question in conjunction with the previous question was used to determine the weights assigned to the different selection factors on a one hundred point scale. The companies varied slightly on the number of points assigned, but the pattern was similar. The computed averages of the different selection factors of this question and the previous one are shown below:

Factor	Points of weight assigned
Interview	35
Test score	30
Past performance	19
School grades	9
Recommendations	7
Total	100

The figures did give an indication of the feelings of the personnel people. They valued their own judgement highest as was demonstrated by the average weight of thirty-five points given on the interview. They placed the least weight on recommendations, with only a seven point weight value. Close behind the interview in importance was the test with a

thirty point weight value. In a rough analysis, one could say that the test score counted one-third, the interview one-third, and all other factors combined one-third in the final decision of whether to hire or not to hire. In this section, there was also a space for the item, medical check. This was not averaged with the other items because all of the companies indicated that passing this item was a requirement in all cases.

Physical description of test administration facilities. All of the companies were visited and the test areas examined. Only one company used an area which could not be considered satisfactory. The remainder of the companies had satisfactory areas. Satisfactory meant good light, relatively free from distractions, and spacious writing areas. Of the participating companies, nine had separate areas designated as testing areas. The other six used private offices that were available at the time the applicant was tested. This question was designed to determine what type conditions an applicant could expect when taking a test for a prospective employer. Not all of the companies had similar test facilities, but all of the applicants for a given company were subjected to the same conditions.

Test administration procedures. All of the companies visited used standardized test procedures. This included reading the test instructions and timing the test according

to the instructions in the test manual. None of the companies used any tests that required a qualified tester. The companies seldom had more than two administrators, and this would help to standardize the procedures even more, in that all applicants received the same instructions from one of two administrators.

Test administrators. There were fifteen male administrators and nineteen female administrators. Of these, 8 per cent indicated college as a qualification. The remainder indicated past experience as a qualification. None mentioned any special training in testing or test procedures. However, as was noted earlier, none of the tests being used required any special training to administer. The writer found that five companies reported no male administrators, and two reported no female administrators. While there were only four more female administrators than male administrators, the female administrators did a disproportionate share of the total testing. The test interpreters were usually listed as the same. However, there were four fewer female interpreters than there were administrators.

Test norms. All of the companies reported that they followed the manual's norms as guides. The manual norms were used in conjunction with the interviews. None indicated that they adhered strictly to the manual. The

personnel people felt that they knew their jobs well enough to know what scores would fit into specific areas.

Many companies indicated that they may have to alter their thinking a little if the labor market continued to be as tight as it was at the time of the report. They felt they would be required to extend the acceptable range to include more applicants. However, this had not been done at the time of the study.

Names of employment tests used. The types of tests used by the life insurance industry in Des Moines varied from general mental ability to attitude patterns. Many of the companies mentioned informal tests which were not included in their responses on the questionnaire. These tests would be in the form of a typing demonstration, or a series of mathematical problems. Several companies listed parts of a test as a single test. An example would be language usage, which is actually a part of the "Differential Aptitude Test". The data are shown in Table IV.

TABLE IV

EMPLOYMENT TESTS USED BY THE LIFE INSURANCE INDUSTRY IN DES MOINES, IOWA, 1966

Name of test	Type of test	Purpose of test	Educational level	Companies using test
Business English Test	Grammar skills	Selection	High school	National Travelers Life
Detroit Clerical Aptitude Test	Clerical skills	Selection	High school	Equitable of Iowa
Differential Aptitude Test	Multifactor aptitude	Selection and placement	All	National Travelers Life
General Clerical Test	Clerical Skills	Selection	High school	Farm Bureau
IBM Program Aptitude Test	Programmers aptitude	Selection and placement	All	Allied Mutual Employers Mutual Farm Bureau Inter-State-Assurance Preferred Risk
IBM Machine Operator Test	Machine operator skills	Selection and placement	All	Farm Bureau Inter-State-Assurance National Travelers Preferred Risk
LOMA Test I	Mental alertness	Selection and placement	All	Central Life Assurance
LOMA Test II	Promotability	Selection and placement	All	American Mutual Bankers Life Company Guardsman Life
LOMA Math Test	Mathematical ability	Selection and placement	All	Central Life Assurance Guardsman Life
LOMA Mechanical Aptitude Test	Mechanical aptitude	Placement	All	Central Life Assurance
Martin Office Aptitude Test	Clerical aptitude	Selection and placement	All	Allied Mutual National Travelers
Math Test	Mathematical ability	Selection	High school	Greater Iowa Life
Mechanical Comprehension Test A	Mechanical aptitude	Selection and placement	All	Central Life Assurance
Mechanical Comprehension Test B	Mechanical aptitude	Selection and placement	All	Central Life Assurance
Minnesota Clerical Aptitude Test	Clerical aptitude	Selection and placement	All	Preferred Risk
National Office Management Association Spelling Test	Spelling ability	Selection	High school	Preferred Risk
Runner Studies of Attitude Patterns	Personality	Selection	All	Des Moines Life
Remington Rand Typing Test	Typing ability	Selection and placement	All	Employers Mutual
SRA Clerical Aptitude Test	Clerical aptitude	Selection and placement	All	Des Moines Life United Security Life
Short Employment Test	Clerical aptitude	Selection	All	Employers Mutual
Thurstone Clerical Employment Test	Clerical aptitude	Selection	All	Bankers Life Company Farm Bureau
Wonderlic Personnel Test	General mental ability	Selection and placement	All	Allied Mutual Employers Mutual Farmers Elevator Mutual Inter-State-Assurance National Travelers Preferred Risk

CHAPTER IV

SUMMARY AND CONCLUSIONS

I. SUMMARY

The purpose of this study was to determine how employment tests were being used by the life insurance industry in Des Moines, Iowa, in the spring of 1966.

The first phase of this study was a review of the literature concerning employment tests. After a review of the literature, a questionnaire was constructed and used as a data-gathering instrument. The questionnaire was designed to determine: (1) the amount of weight placed on test results in selection, placement and promotion, (2) what information the companies were trying to elicit about the individuals by using tests, (3) whether or not the test results were making the decisions, rather than the personnel people.

There were twenty-one insurance companies licensed to sell life insurance located in Des Moines, Iowa, in the spring of 1966. Each of these companies was visited by the investigator. The purpose of the study was discussed with the people working in the personnel departments. The questionnaire was explained to them and was left with them so that they could complete it at a convenient time. Twenty of the twenty-one companies completed the questionnaire and

returned it to the investigator. Data were then compiled, tabulated, and presented in Chapter III.

II. CONCLUSIONS

The following conclusions appear to be valid based on the data obtained in this study:

1. The ratio of male employees to female employees was found to be one to two, while the ratio of males tested to females tested was one to four. These figures suggested some discrimination on the basis of sex.
2. The companies whose median turnover rate was above the turnover rate of the entire group employed 88 per cent of the employees in the study. This figure suggested that the larger life insurance companies in Des Moines tended to have higher turnover rates.
3. The practice of testing prospective employees was an integral part of the selection procedure of the larger life insurance companies in Des Moines.
4. Even though all of the participating companies using tests expressed satisfaction with their testing program, ten had no formal evaluation procedure for this program. This suggested that their satisfaction was based on something other than factual information.

5. Few of the applicants tested had less than a high school education. This could lead to two assumtions: (a) those persons with less than a high school education did not apply for employment with the life insurance industry, and (b) those applicants were eliminated from consideration for employment prior to the testing phase of the selection procedure.
6. The records kept by the participating companies concerning the number of persons tested each year, which are essential in determining the selection ratio, were found to be inadequate.
7. The people working in the personnel departments of the participating companies placed more weight on their own judgement in the selection of personnel than on the obtained test score. The test score was used to confirm their judgement and substantiated the school or work record.
8. The physical facilities were found to be adequate for testing in all but one of the participating companies.
9. The test administrators and interpreters were usually the same people. Even though none of these people had any special qualifications in the area of testing, this presented no problem since

none of the tests being used required any specially qualified administrators.

10. The types of tests most frequently used were those designed to demonstrate specific skills. General mental ability tests were ranked second in frequency of use, and personality tests were used by only one company.

11. In a review of the literature it was found that the criticisms of the use of employment tests were usually directed toward personality tests. This type of test could not be recommended as a practical tool at this time.

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APPENDIX

APPENDIX A

QUESTIONNAIRE

USE OF EMPLOYMENT TESTS BY THE LIFE INSURANCE INDUSTRY IN THE DES MOINES AREA

Name of Company_____

Address_____

Type of Company_____
Life Accident and Health Multiple

Size of Company	Male	Female	Total
No. of H. O. Employees			
No. of H. O. Positions			
Administrative			
Clerical			
Sales			
Supervisory			
Turnover Rate by Category:			
Clerical			
Administrative			

History of testing and test procedures in this company:

_____

_____

_____

Why does the company use tests?:_____

_____

Is the testing program doing its job? Explain:_____

_____

How do you evaluate your testing program?_____

_____

Is the company revising or contemplating revision of the testing program?: Yes____No____Explain_____

_____

_____

Number of persons tested each year and educational level attained:

Educational category	Male	Female	Total
Less than high school	_____	_____	_____
High school	_____	_____	_____
College	_____	_____	_____
Per cent eliminated by testing:	_____	_____	_____
Per cent eliminated by means other than testing:	_____	_____	_____

How much weight does the test carry in the final decision to hire or not to hire? _____

What other factors are used in selection?

1. School grades_____
2. Past performance_____
3. Previous employment_____
4. Recommendations_____
5. Interview_____
6. Medical check_____
7. Other - describe

_____

Names of employment tests used:

	Name	Publisher	Date Published	Form
1.				
2.				
3.				
4.				
5.				

	Author	Type of Test	Purpose	Educational Level
1.				
2.				
3.				
4.				
5.				

Physical description of test administration facilities:

Test administration procedures:

Test administrators: Position Qualifications

Males

Females

Norms used and how established (test manual):

234318